

HIV/AIDS Brief

What is HIV?

Human immunodeficiency virus (HIV) is a disease that attacks the human immune system by destroying white blood cells, thus preventing the body from fighting off infection and disease.¹ HIV can lead to acquired immune deficiency syndrome (AIDS) when either the white blood cell count falls below a certain threshold or when a person with HIV develops certain cancers or infections.

AIDS is the last stage of HIV infection, meaning that an individual's immune system has been weakened to a point where it is difficult to fight infections.² Eventually, those with AIDS lose their ability to fight off infections and die from such illnesses.

The HIV virus is found in blood, semen, pre-seminal fluid, vaginal fluid, and breast milk and is transmitted through the spread of these fluids.³ HIV can be transmitted through oral, anal, or vaginal sex with an infected individual, sharing needles or syringes with an infected person, through exposure before or during birth, or through breast feeding.¹

In 2009, an estimated 48,100 new cases of HIV infections occurred in the United States and over 1.1 million people are currently living with the disease.⁴ There are sharp disparities among those newly infected with the virus. Of those diagnosed with HIV in 2009, blacks accounted for 44% of all cases.⁵

Risk Factors for HIV/AIDS

Demographic Risk Factors

- Gender
 - In 2009, males accounted for 77% of all HIV diagnoses.⁶
- Age
 - Those under the age of 40 are more likely to become infected with the HIV virus.
 - More than half (51%) of new HIV cases were those aged 25-44 years of age, in 2009.⁴
- Race/Ethnicity
 - Blacks and Hispanics are at a disproportionate risk of HIV infection.
 - In 2009, Blacks and Hispanic accounted for 44% and 20% of new HIV infections, respectively.⁶

Social/Behavioral Risk Factors

- Risky Sexual Behavior
 - High risk sexual contact (both homosexual and heterosexual), such as unprotected sex, increases the risk of becoming infected with the HIV virus.

- Men who have sex with men (MSM) accounted for the largest number of HIV diagnoses overall in 2009.⁶
- Among females, most HIV diagnoses occurred in those exposed through high risk heterosexual contact.⁶
- Injection Drug Use/Needle Sharing
 - Sharing needles with an HIV infected person increases the risk of contracting the virus.
 - In 2009, 9% of all new HIV infections were due to injection drug use.⁶
- Perinatal Infection
 - HIV-positive mothers can transmit the virus to their baby before or during birth, or through breast milk exposure after birth.³
 - Medication taken during pregnancy can reduce this risk.
- Having a Sexually Transmitted Disease (STD)
 - STDs increase susceptibility to HIV infection.⁷

Intermediate Outcomes

HIV/AIDS increases the risk of other diseases and is accompanied by complications. Some of these include:

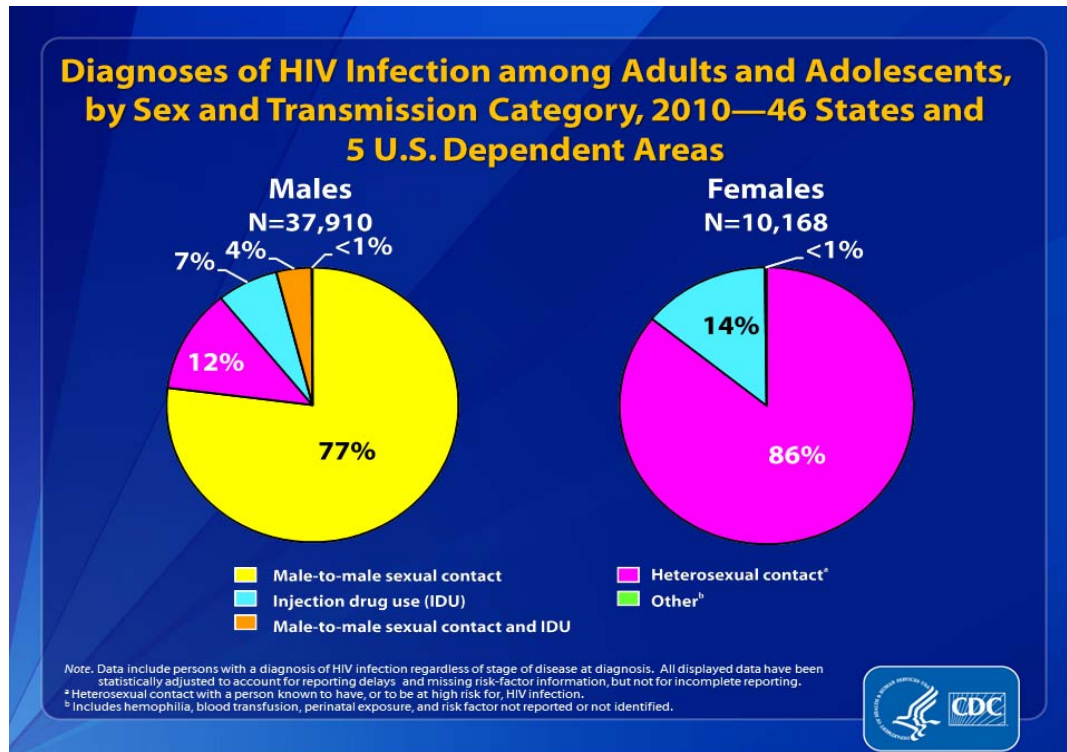
- *Wasting Syndrome*
 - Causes the involuntary loss of more than 10% of a person's body weight and muscle.
 - Can increase the susceptibility to other diseases and infections.⁸
- *Candidiasis (Thrush)*
 - Causes a fungal infection in the mouth, throat, or vagina.⁹
- *Pneumonia*
 - HIV infection increases the risk of pneumonia infection because the immune system is weakened.⁹
- *Tuberculosis (TB)*
 - HIV infection increases the risk of tuberculosis because the immune system is weakened.⁹
- *Invasive Cervical Cancer*
- *Lymphoma*
 - Causes cancer in the lymph nodes and is common in patients with severely depressed immune systems.⁹
- *Cardiovascular Disease*
 - Some HIV medications can increase the risk of developing cardiovascular disease.⁹
- *Diabetes*
 - Some HIV medications increase the risk of developing insulin resistance and diabetes.⁹
- *Dementia*

- The HIV virus can cross the blood-brain barrier and can damage the brain, affecting an individual's ability to think and function.⁹
- *Oral Health*
 - HIV infection can make a person more susceptible to gum disease, oral warts, cavities, and dry mouth.⁹
- *Hepatitis C*
 - Individuals with HIV, especially injection drug users, may also be infected with the hepatitis C virus.
 - 80% of HIV infected intravenous drug users are also infected with Hepatitis C.¹⁰
- *Kidney Disease, as a complication*
 - Up to 30% of people living with HIV have abnormal kidney function.⁹
- *Body Fat Changes - Lipodystrophy, as a complication*
 - Lipodystrophy is the disturbance in the way the body produces, distributes, and uses fat.⁸
 - Causes individuals to gain fat in the neck, abdomen, breasts, and face.⁸

National Statistics and Disparities

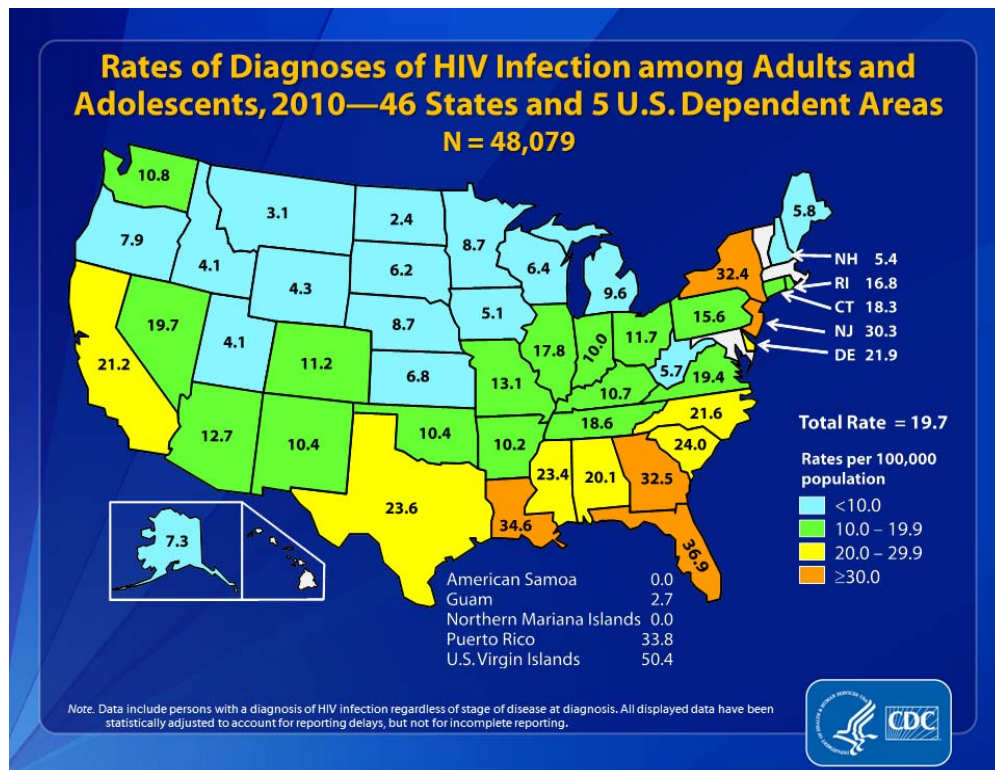
Statistics

- In 2009, an estimated 1.1 million Americans were living with HIV infection, with 18% undiagnosed.⁴
- Over 48,100 new cases of HIV infections were reported in the United States in 2009.⁴
- In 2010, nearly 34,000 Americans were diagnosed with AIDS.⁴

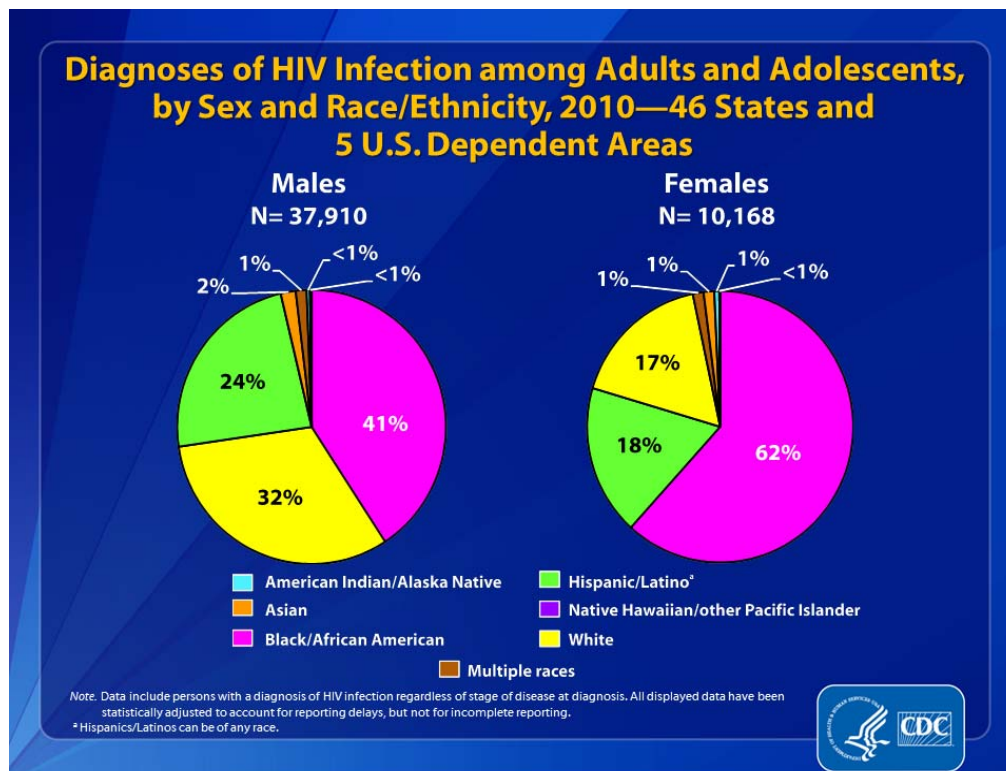


Disparities

- The number of newly diagnosed HIV infections was 8 times higher in black Americans than in white Americans.⁴
- The number of newly diagnosed HIV infections was 2-4 times higher in Hispanic Americans than in white Americans.¹¹
- In 2009, men accounted for more than three-quarters of all cases of HIV infection.⁶
- The Southeastern region of the United States had the highest reported diagnosis rates of HIV/AIDS for adults and adolescents in 2010.⁴
- In 2010, 41% of men living with HIV and 62% of women living with HIV were black.⁴



Source: Centers for Disease Control and Prevention. HIV/AIDS Surveillance – Epidemiology of HIV Infection (through 2010). Last Updated March 12, 2012. Reprinted with permission.



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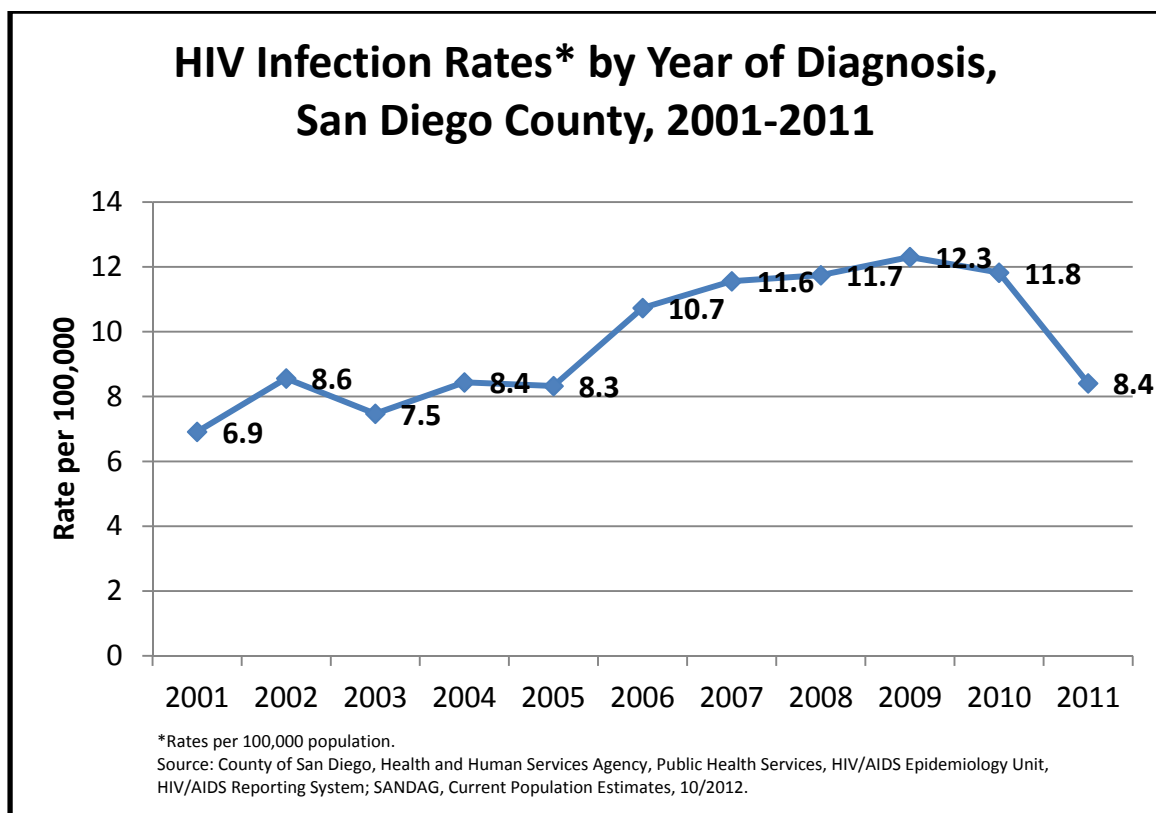
Costs

- In 2009, the lifetime costs of treating HIV was an estimated \$355,000 per person.¹²

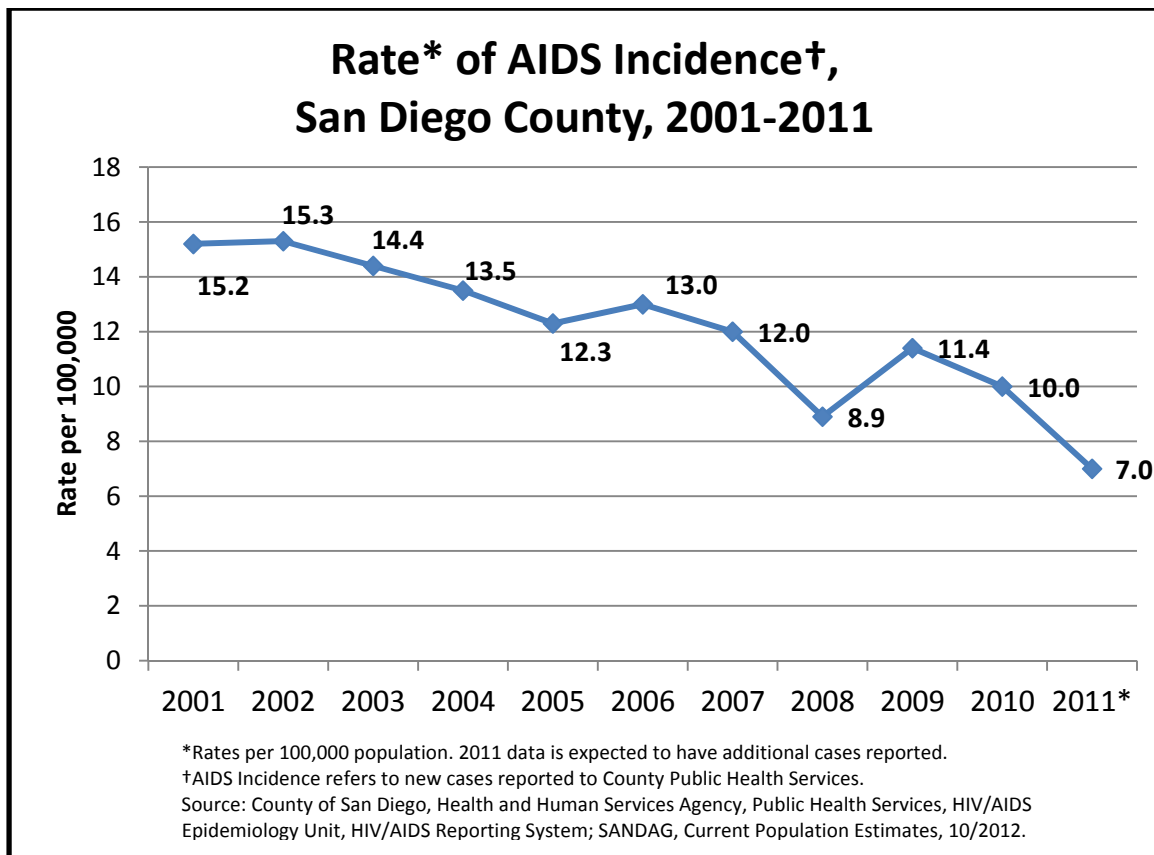
Local Statistics and Disparities

Statistics

- Between 2009 and 2011, a total of 1,020 new HIV infections were diagnosed in San Diego County.¹³
- Between 2009 and 2011, a total of 892 AIDS diagnoses were reported in San Diego County.¹³
- Among males, 82% of all new HIV infections reported between 2007 and 2011 were transmitted by men who have sex with men (MSM).¹³
- Among females, 72% of all new HIV infections reported between 2007 and 2011 were transmitted through heterosexual contact.¹³



- Between 2001 and 2011, the highest rate of HIV infections occurred in 2009 at 12.3 per 100,000 San Diego County residents.
- In 2011, the HIV infection rate was 8.4 per 100,000 San Diego County residents.



- From 2001 to 2011, the rate of newly diagnosed AIDS cases has decreased from 15.2 per 100,000 residents to 7.0 per 100,000 residents.

Disparities

- Of the new HIV infections reported between 2009 and 2011, 90% of the cases were among males.¹³
- In 2010, the rate of newly diagnosed AIDS cases among Blacks was more than 2 times the rate for San Diego County.¹³
- In 2010, the rate of newly diagnosed AIDS cases among Hispanics was 33% higher than the rate for San Diego County.¹³
- From 2007 to 2011, the Central region had the highest rates of new HIV infections in all of San Diego County.¹³

HIV/AIDS and Its Complications: Prevention for Individuals

- Safer Sex Practice
 - Use condoms to reduce HIV transmission.
 - When used correctly, condoms can be 98% effective in preventing the transmission of HIV.¹
- Do not share needles or syringes with others.
- Seek prenatal treatment if you are pregnant.
 - There are medications available that can greatly reduce the chance of transmitting the HIV virus to the baby.
- Seek treatment for STDs
 - Treatment of STDs reduces the risk of transmitting or becoming infected with HIV.⁷
- Get an HIV test
 - Early testing and intervention can help prevent the spread and progression of the disease.
 - About 18% of those infected do not know they have HIV.¹

Prevention Tools for Public Health Professionals: HIV/AIDS Critical Pathway

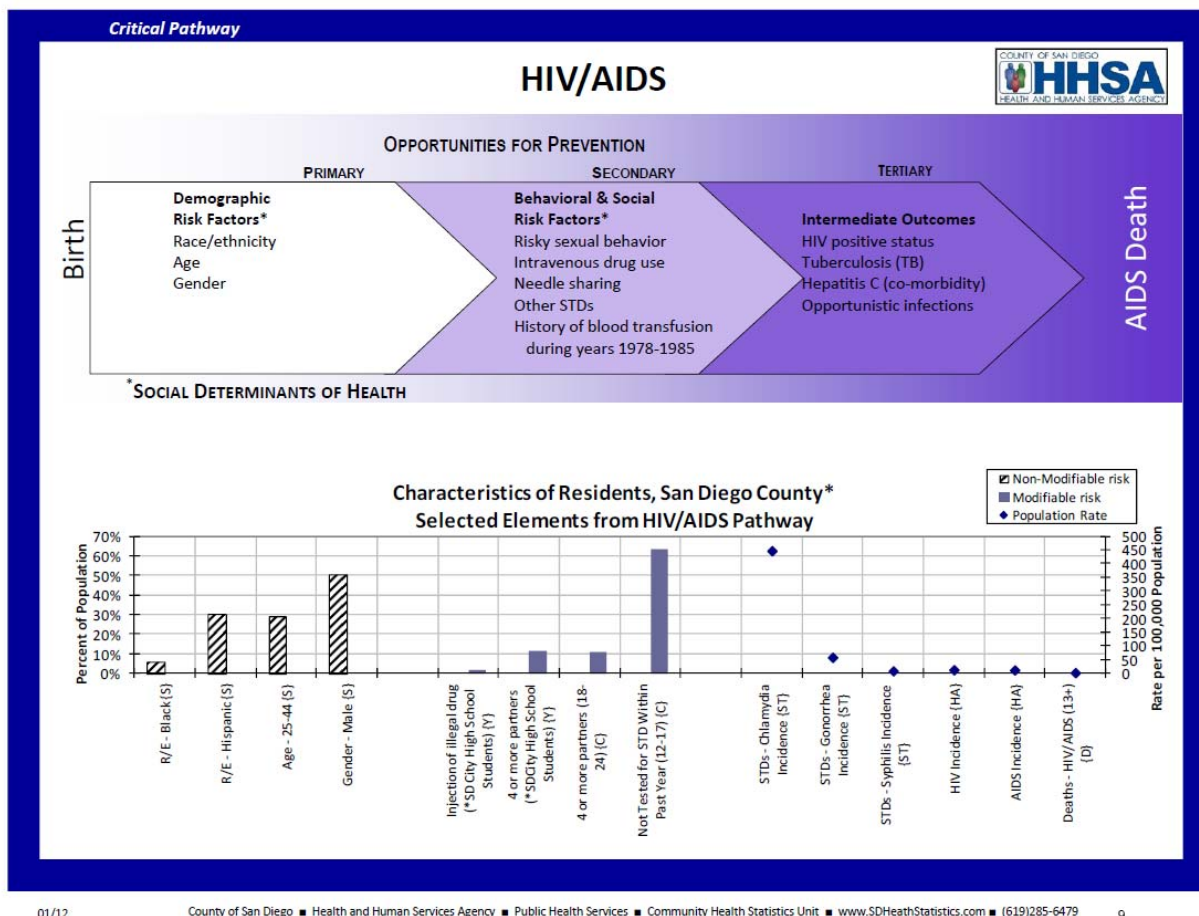
There are many opportunities for public health professionals in the community to help reduce the risk of HIV/AIDS and to improve the health outcomes of individuals who already have the disease. To assist in community health efforts, an *HIV/AIDS Critical Pathway* was developed.

The *HIV/AIDS Critical Pathway* is a tool to be used in health promotion and disease prevention efforts. Its purpose is to identify populations at greater risk for HIV/AIDS, and to identify prevention and early intervention opportunities. The *HIV/AIDS Critical Pathway* displays a diagram of the major risk factors and intermediate outcomes or related diseases that have an impact on, or result from, HIV/AIDS. Risk factors are marked as non-modifiable (black striped bars) such as race/ethnicity or gender and modifiable (solid colored bars) such as risky sexual behavior or needle sharing.

Beneath the risk factors diagram is a data grid describing the San Diego resident population in relation to selected elements of the pathway. The data grid is designed to assist in quick identification of opportunities for interventions that might have a high impact on a particular disease. The data represent all San Diegans, not only those with a particular disease. The left axis (bar) indicates the percent of the population with a known risk factor or intermediate outcome. The right axis (diamond) indicates the rate of a particular medical encounter within the population that is specified. The data are described fully in the complete version of the *Critical Pathways*.¹⁴

In addition, the Community Health Statistics Unit website (www.SDHealthStatistics.com) provides detailed demographic, health and facility data including maps of geographically formatted health data. Also available are links to other County data sources, state and national sites of interest. For further assistance with data or interpretation, please contact the Community Health Statistics Unit.

HIV/AIDS Critical Pathway to Disease.



¹ Centers for Disease Control and Prevention. Basic Information about HIV and AIDS. <http://cdc.gov/hiv/topics/basic/index.htm#spread>. Last updated April 11, 2012. Accessed November 21, 2012.

² U.S. Department of Health and Human Services. What is HIV/AIDS? <http://www.aids.gov/hiv-aids-basics/hiv-aids-101/overview/what-is-hiv-aids>. Last updated June 6, 2012. Accessed November 21, 2012.

³ U.S. Department of Health and Human Services. Reduce Your Risk: Fluids of Transmission. <http://www.aids.gov/hiv-aids-basics/prevention/reduce-your-risk/fluids-of-transmission>. Last updated January 11, 2011. Accessed November 21, 2012.

⁴ Centers for Disease Control and Prevention. HIV/AIDS Basic Statistics. <http://www.cdc.gov/hiv/topics/surveillance/basic.htm#hivest>. Last updated September 17, 2012. Accessed November 21, 2012.

⁵ Centers for Disease Control and Prevention. HIV Incidence. <http://www.cdc.gov/hiv/topics/surveillance/incidence.htm>. Last Updated February 24, 2012. Accessed November 21, 2012.

⁶ U.S. Department of Health and Human Services. Statistics: Statistics Overview. <http://www.aids.gov/hiv-aids-basics/hiv-aids-101/overview/statistics>. Last updated June 6, 2012. Accessed November 21, 2012.

⁷ Centers for Disease Control and Prevention. The Role in STD Detection and Treatment in HIV Prevention –CDC Fact Sheet. <http://www.cdc.gov/std/hiv/STDFact-STD&HIV.htm#Whats>. Last updated September 1, 2010. Accessed November 21, 2012.

⁸ Klemack, Christina. "NCPAD: Disability/Condition: Benefits of Exercise for People with HIV/AIDS." The National Center on Physical Activity and Disability Home Page. http://www.ncpad.org/disability/fact_sheet.php?sheet=190. Last updated March 7, 2007. Accessed November 21, 2012.

⁹ U.S. Department of Health and Human Services. HIV/AIDS Basics: Opportunistic Infection. <http://aids.gov/hiv-aids-basics/staying-healthy-with-hiv-aids/potential-related-health-problems/opportunistic-infections>. Last updated November 16, 2010. Accessed November 21, 2012.

¹⁰ Centers for Disease Control and Prevention. HIV and Viral Hepatitis. <http://www.cdc.gov/hiv/resources/factsheets/hepatitis.htm>. Last updated November 17, 2011. Accessed November 21, 2012.

¹¹ Centers for Disease Control and Prevention. HIV among Latinos. <http://www.cdc.gov/hiv/latinos/index.htm>. Last updated November 8, 2011. Accessed November 21, 2012.

¹² U.S. Department of Health and Human Services Agency. National HIV/AIDS Strategy for the United States, 2010. <http://aids.gov/federal-resources/national-hiv-aids-strategy/nhas.pdf>. Accessed November 21, 2012.

¹³ County of San Diego, Health and Human Services Agency. HIV/AIDS Epidemiology Report, 2012.

¹⁴ County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit, Critical Pathways: The Disease Continuum, 2012.